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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,477	04/27/2001	Robert Anderson Malaney	3961.46US01	9130
23552	7590	06/29/2005	EXAMINER	
MERCHANT & GOULD PC			HOM, SHICK C	
P.O. BOX 2903			ART UNIT	
MINNEAPOLIS, MN 55402-0903			PAPER NUMBER	
			2666	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/844,477	<b>Applicant(s)</b> MALANEY ET AL.	
	<b>Examiner</b> Shick C. Horn	<b>Art Unit</b> 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) 61-64 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 57-60 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 14-18, 21-25, 28-32, 35-39, 42-46, 49-53 and 56 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 12, 13, 19, 20, 26, 27, 33, 34, 40, 41, 47, 48, 54, 55 and 65-72 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/30/02</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Drawings***

1. The drawings are objected to because a brief descriptive label must be provided for each numbered block, i.e. in Figs. 1-3, 5-6, provide label for terminals 100, 118, edge switch 104, network 106, etc. In Fig. 3, delete typo "303" and insert ---308---as recited in the specification page 4 line 19. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR

Art Unit: 2666

1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figures 1-4 should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such

Art Unit: 2666

as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

5. Claims 2-7, 9-14, 66, 70, 16-21, 67, 71, 23-28, 68, 72, 30-35, 37-42, 44-49, 51-56, and 69 are objected to because of the following informalities: in claims 2-7, 9-14, 66, 70, 16-21, 67, 71, 23-28, 68, 72, 30-35, 37-42, 44-49, 51-56, and 69 line 1, delete "A method," "A packet," "A computer," "A computer," "A method," "A packet," "A computer," "A computer," and "A method," and insert ---The method---, ---The packet---, ---The computer---, ---The computer---, ---The method---, ---The packet---, ---The computer---, ---The computer---, and ---The method---, respectively, because they're reciting the method, the packet traffic shaper, the computer readable memory medium, and the

Art Unit: 2666

traffic policer of the base claims. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2666

8. Claims 1-4, 7-11, 14-18, 21-25, 28-32, 35-39, 42-46, 49-53, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raisanen et al. (6,633,540) in view of Boda et al. (5,687,292).

Regarding claims 1, 8, 15, 22, 29, 36, 43, 50:

Raisanen et al. disclose a method, computer readable memory medium, computer program, of shaping, policing, input packet traffic, said method comprising steps of: determining a constraint parameter; and constraining, based upon said parameter, transmission of the input packet traffic, thereby to produce output packet traffic having a pre-determined entropy bound (see abstract which recite the traffic shaper for shaping real-time traffic and best-effort traffic in accordance with traffic shaping parameters; col. 1 line 56 to col. 2 line 3 which recite the traffic shaper being integrated into a computer readable medium for use in a processor; col. 2 line 57 to col. 3 line 12 which recite checking constraint for allowing transmission of incoming best-effort packet and incoming real-time packet and for output of the incoming packet; and col. 4 lines 32-48 which recite the requirement to limit packet loss clearly anticipate determining a constraint parameter and

Art Unit: 2666

constraining, based upon the parameter, transmission of the input packet traffic having a pre-determined entropy bound).

Raisanen et al. disclose all the subject matter of the claimed invention with the exception of wherein the constraint parameter dependent upon a probability density function as recited in claims 1, 8, 15, 22, 29, 36, 43, 50; wherein prior to the determining step, the method comprises a further step of: selecting a type of the probability density function as in claims 2, 9, 16, 23, 30, 37, 44, 51; wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated in conjunction with the determining step, thereby permitting said determining of the constraint parameter as in claims 3, 10, 17, 24, 31, 38, 45, 52; wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated prior to the determining step, thereby permitting said determining of the constraint parameter as in claims 4, 11, 18, 25, 32, 39, 46, 53; and wherein the probability density function is an exponential function as in claims 7, 14, 21, 28, 35, 42, 49, 56.

Boda et al. from the same or similar fields of endeavor teach in the related technique section that it is known to provide the constraint parameter dependent upon a probability



Art Unit: 2666

density function (see col. 3 lines 12-24 which recite the policing mechanism using a probability density function to shape the traffic); wherein prior to the determining step, the method comprises a further step of: selecting a type of the probability density function and wherein the probability density function is an exponential function (see col. 12 lines 20-45 which recite the selected type of density function being exponential); wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated in conjunction with the determining step, thereby permitting said determining of the constraint parameter; and wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated prior to the determining step, thereby permitting said determining of the constraint parameter (see col. 5 lines 11-31 which recite distributing transmission capacities among the links of the network to achieve maximum carried traffic and the optimization task and col. 11 line 38 to col. 12 line 10 which recite weights being given in advance to obtain the set of link capacities; and the new optimal link blocking probabilities being computed using linear programming based on these capacities values clearly reads on the probability distribution function being evaluated prior and in conjunction with the

Art Unit: 2666

determining step, respectively). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the constraint parameter dependent upon a probability density function; wherein prior to the determining step, the method comprises a further step of: selecting a type of the probability density function; wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated in conjunction with the determining step, thereby permitting said determining of the constraint parameter; wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated prior to the determining step, thereby permitting said determining of the constraint parameter; and wherein the probability density function is an exponential function as taught in the related technique section by Boda et al. in the communications method of Raisanen et al. The constraint parameter being dependent upon a probability density function; wherein a probability distribution function which is derived from the probability density function of the selected type is evaluated in conjunction with the determining step, thereby permitting said determining of the constraint parameter; wherein a probability distribution function which is derived from the

Art Unit: 2666

probability density function of the selected type is evaluated prior to the determining step, thereby permitting said determining of the constraint parameter; and wherein the probability density function is an exponential function can be implemented by using the technique of making the constraint parameter to dependent upon a probability density function of Boda et al. in the traffic shaper of Raisanen et al. The motivation for using the technique of making the constraint parameter to dependent upon a probability density function as taught by Boda et al. in the communication method of Raisanen et al. being that it provides more efficiency for the system since the system can optimize the operation of the network according to a given objective density function.

***Allowable Subject Matter***

9. Claims 57-60 are allowed.

10. Claims 5-6, 12-13, 19-20, 26-27, 33-34, 40-41, 47-48, 54-55, 65-72 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hatono et al. disclose ATM exchange, ATM multiplexer and network trunk apparatus.

Fodor et al. disclose link capacity sharing for throughput-blocking optimality.

Hegde et al. disclose method and device for distributing bandwidth.

Beshai et al. disclose large-scale service-rate regulators for ATM switching.

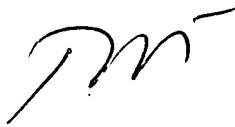
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

  
DANIEL  
PRIMARY EXAMINER